

The Industrial Revolution  
1700-1900 in Britain  
1870's-1900 in U.S.  
Unit 9

.....

!

- [illegible]

“Great Britain” -



# BEGAN in ENGLAND

- Began in England (around 1750-1800)
- Due to its natural resources-coal & iron ore
- Improvement of the Steam Engine



# **ENCLOSURE MOVEMENT in BRITAIN**

- CLOSED IN COMMON LAND
- LED TO MORE **EFFICIENT FARMING**
- **INCREASED FOOD** SUPPLY
- WORKERS MOVED TO CITIES FOR JOBS WHICH MEANT FACTORIES HAD A LABOR FORCE

# Then, from England where?

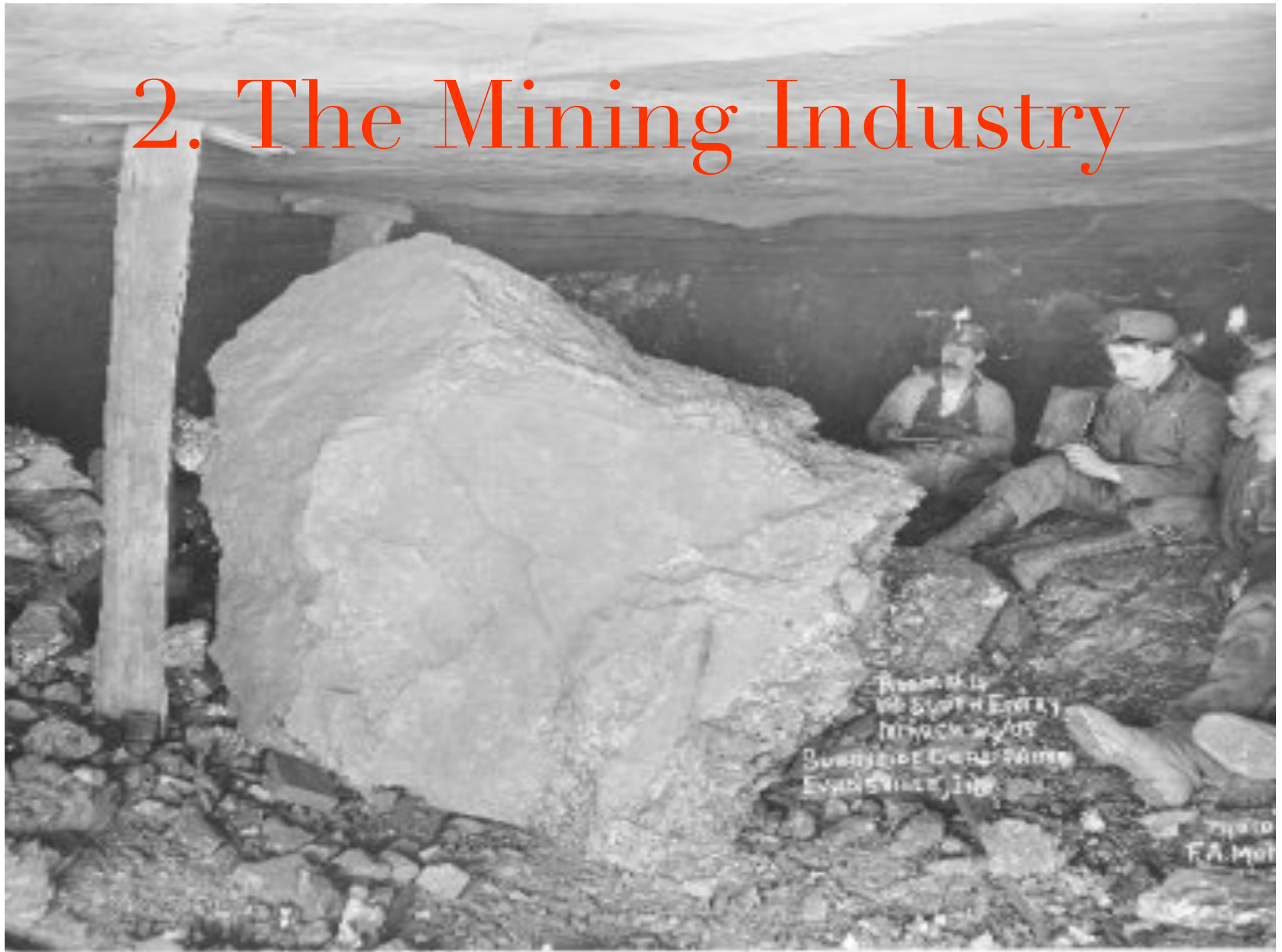


Spread to Europe (mid to late 1800s), Western Europe (Germany), then to the United States (early 1900s)

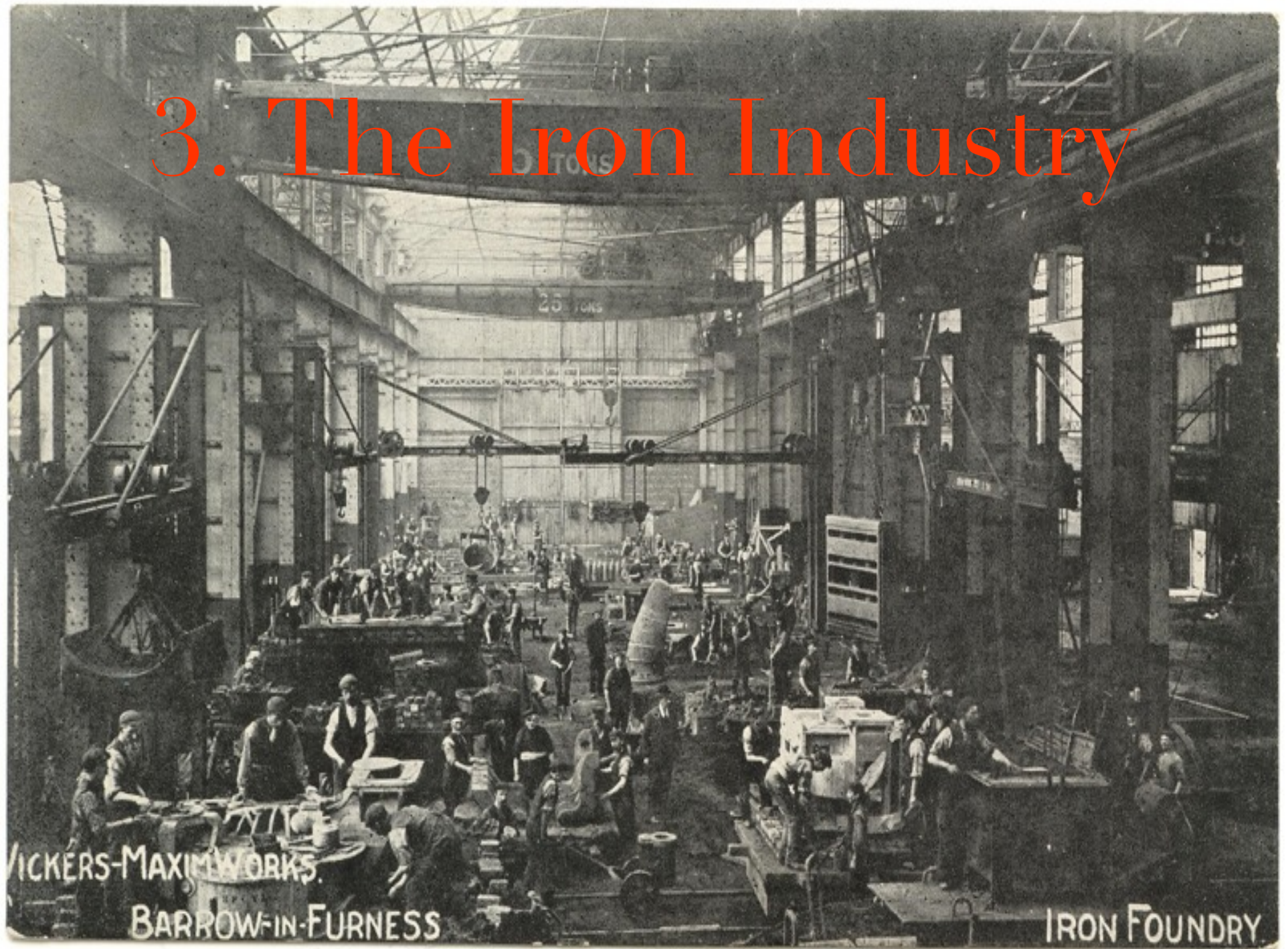
# The “Big Three” Industries:

## 1. The Textile Industry

## 2. The Mining Industry



# 3. The Iron Industry





**The Industrial  
Revolution saw  
the growth of**

**I.N.D.U.S.T.R.Y.**

**I    Increase in  
population,  
education & the  
middle class!**


# The Industrial Revolution

New advancements in science


-Edward Jenner: smallpox vaccine

-Louis Pasteur: discovered bacteria



World's Greatest 1000  Greatest Scientists 2000

**LOUIS PASTEUR**  
Medicine • Chemistry • Physics  
Bacteriology • Immunology 1822 - 1895





*"Greatest biologist of all time"*

- Contributed more to the saving of human lives than any other man
- Germ theory of disease
- Law of Biogenesis  
Disproved "spontaneous generation"
- "Pasteurization" of food
- Developed vaccines for:  
Rabies - Diphtheria - Anthrax and more
- Opposed Darwinism

*"Here was a life, within the limits of humanity, well-nigh perfect. He worked incessantly. He went through poverty, bereavement, ill health and opposition. He lived to see his doctrines current over all the world. Yet here was a man whose spiritual life was no less admirable than his scientific life."*

— Stephen Paget, English surgeon



*"Could I but know all, I would have the faith of a Breton peasant woman."*

*"The more I study nature, the more I stand amazed at the work of the Creator."*

— Louis Pasteur

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## Louis Pasteur (1822-95)

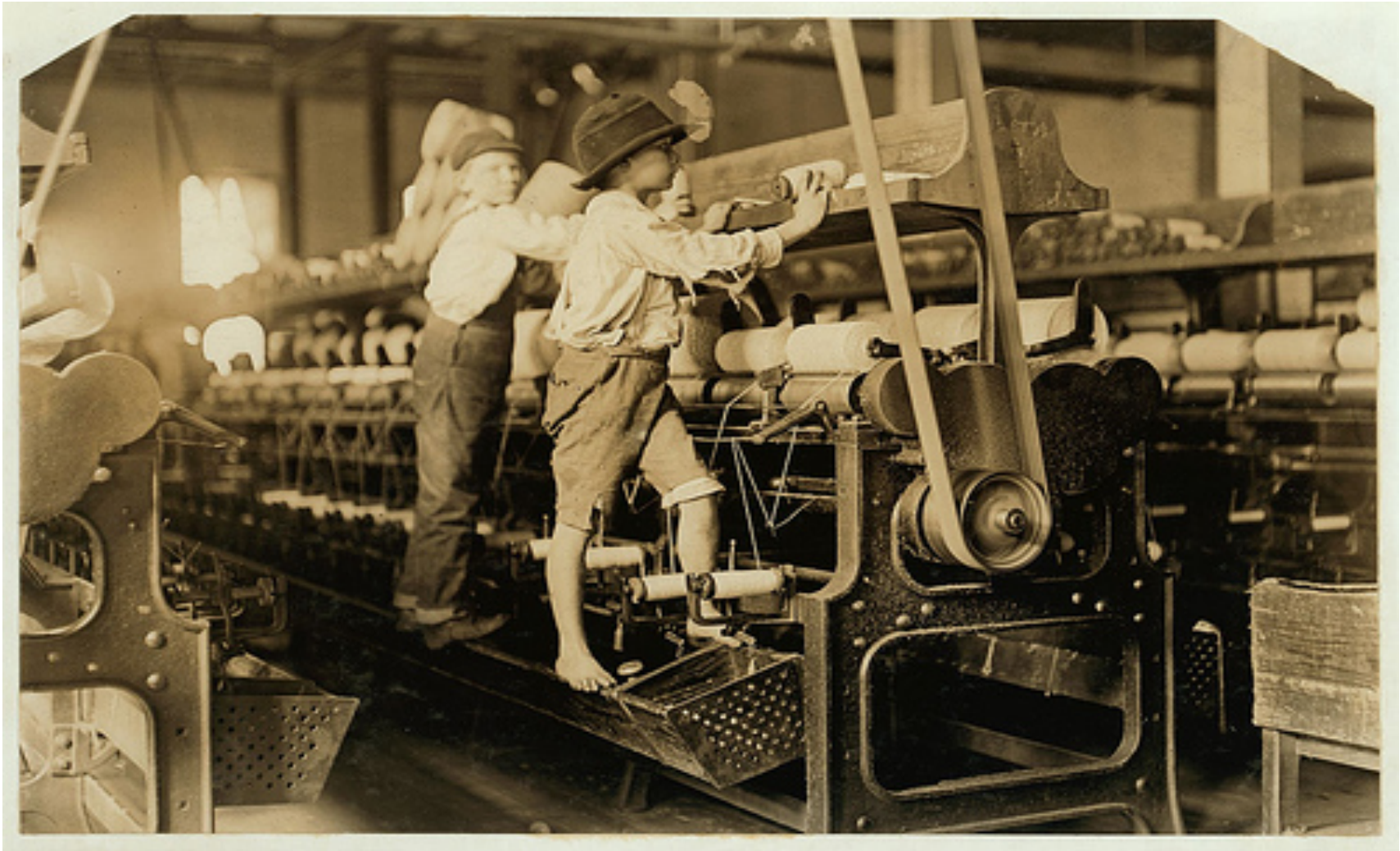
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*Louis Pasteur, c. 1870.*

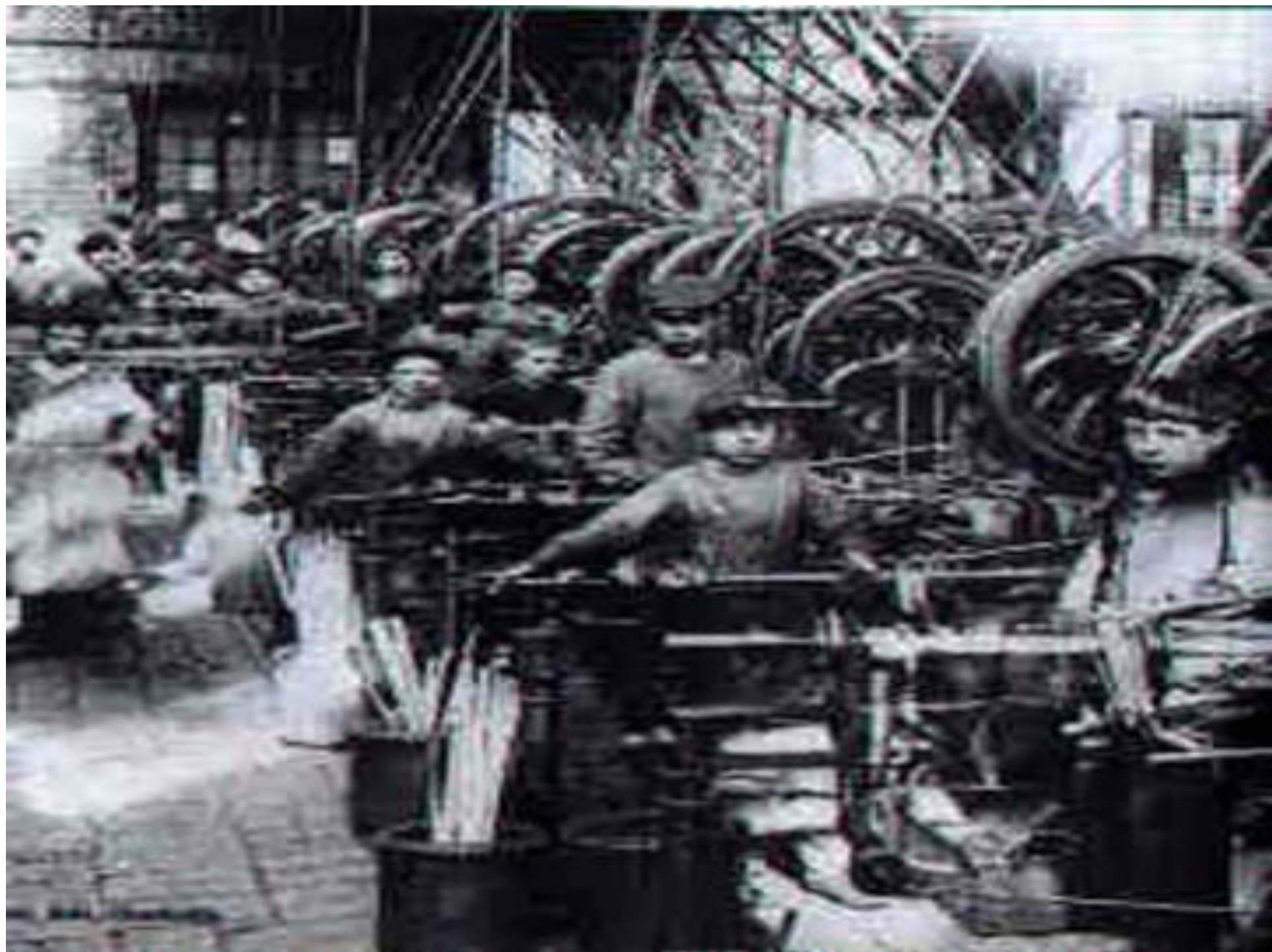
- **D-DANGEROUS  
WORKING CONDITIONS  
LED TO DISSATISFIED  
WORKING CLASS.**





Replacing bobbins on machinery





# Urbanization begins (growth of cities)







# **S Standard of living increases**

Standard of living:  
how much you can  
buy

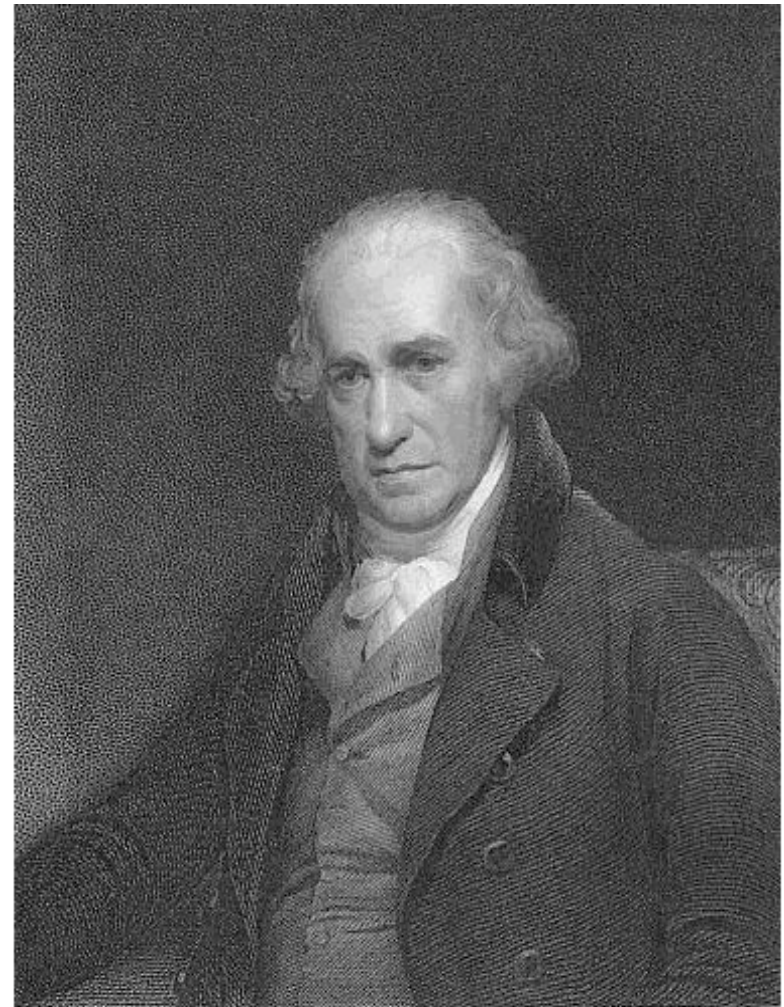
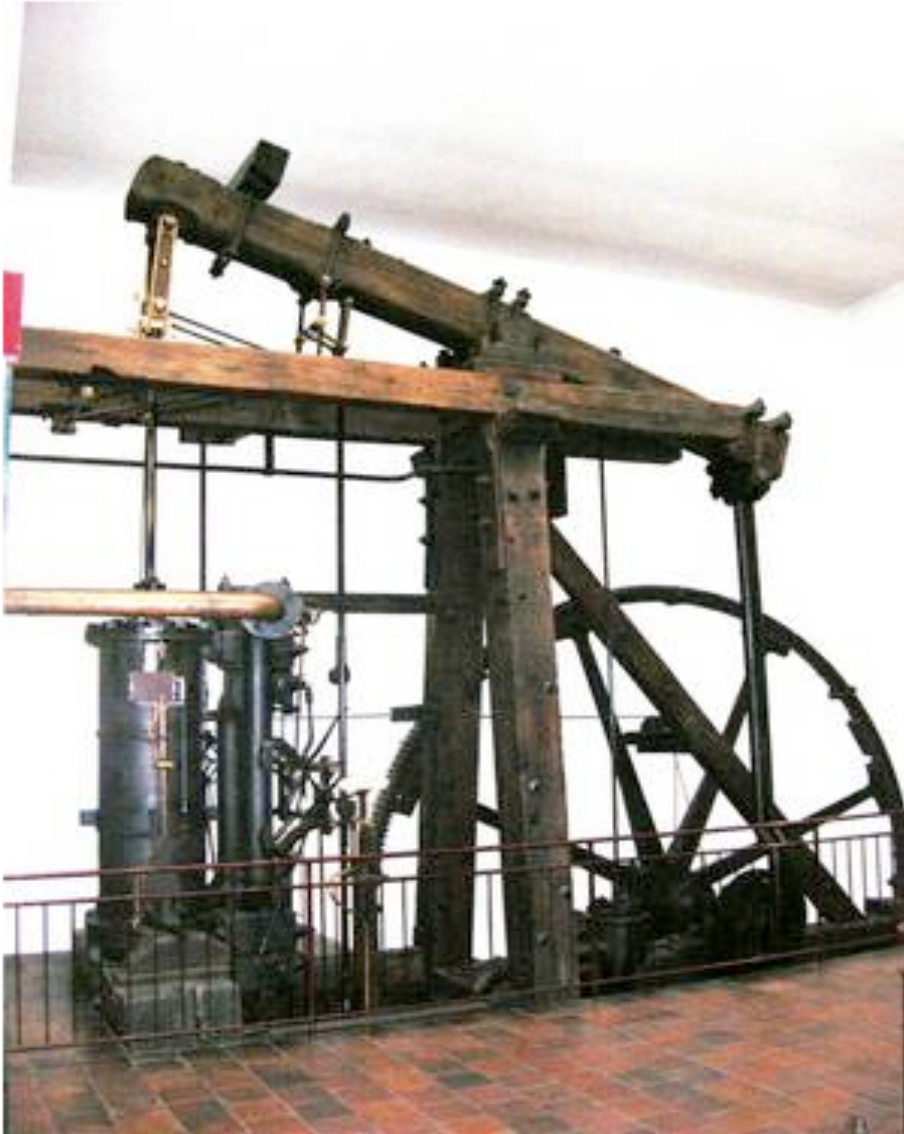


# **T      Transportation improved**

**James Watt - steam  
engine**



James Watts



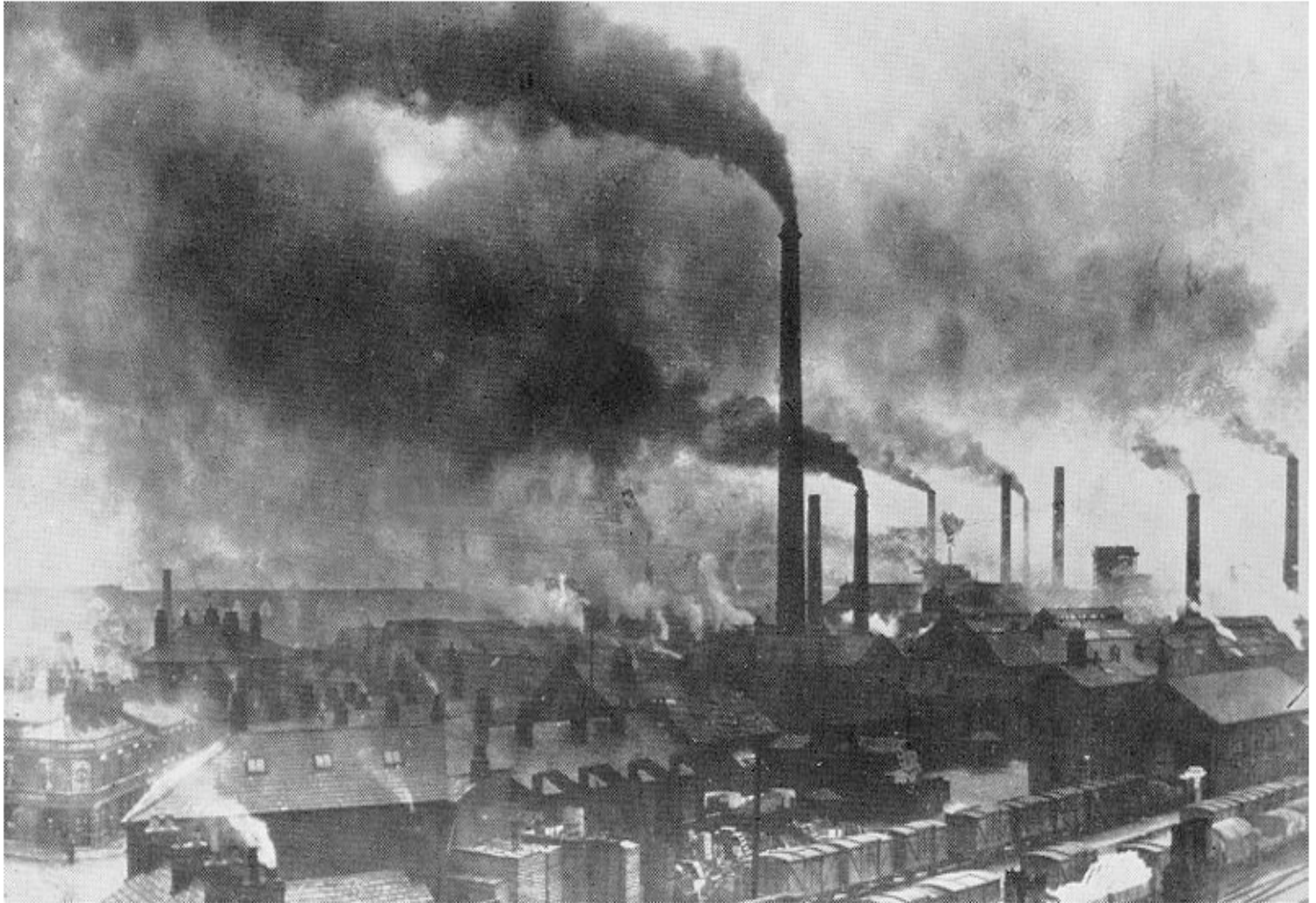
Trade expansion was enabled by the introduction of **canals**, improved **roads** & **railways**.



# **R** rise of pollution **-air, water**



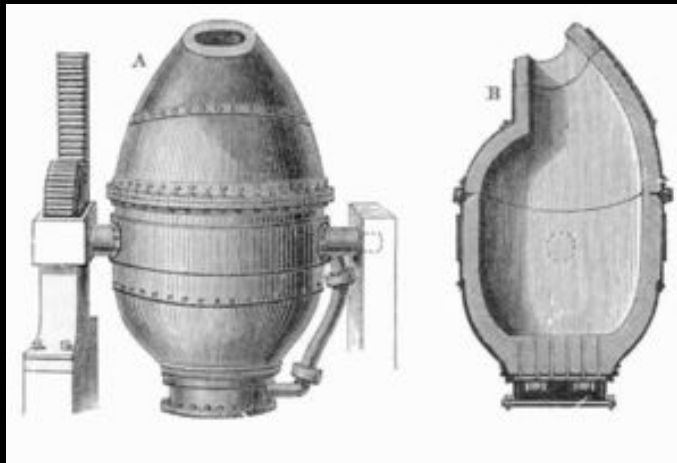
Widnes, England – late 19<sup>th</sup> Century



Y Yielding cheaper  
steel thanks to Henry  
Bessemer.



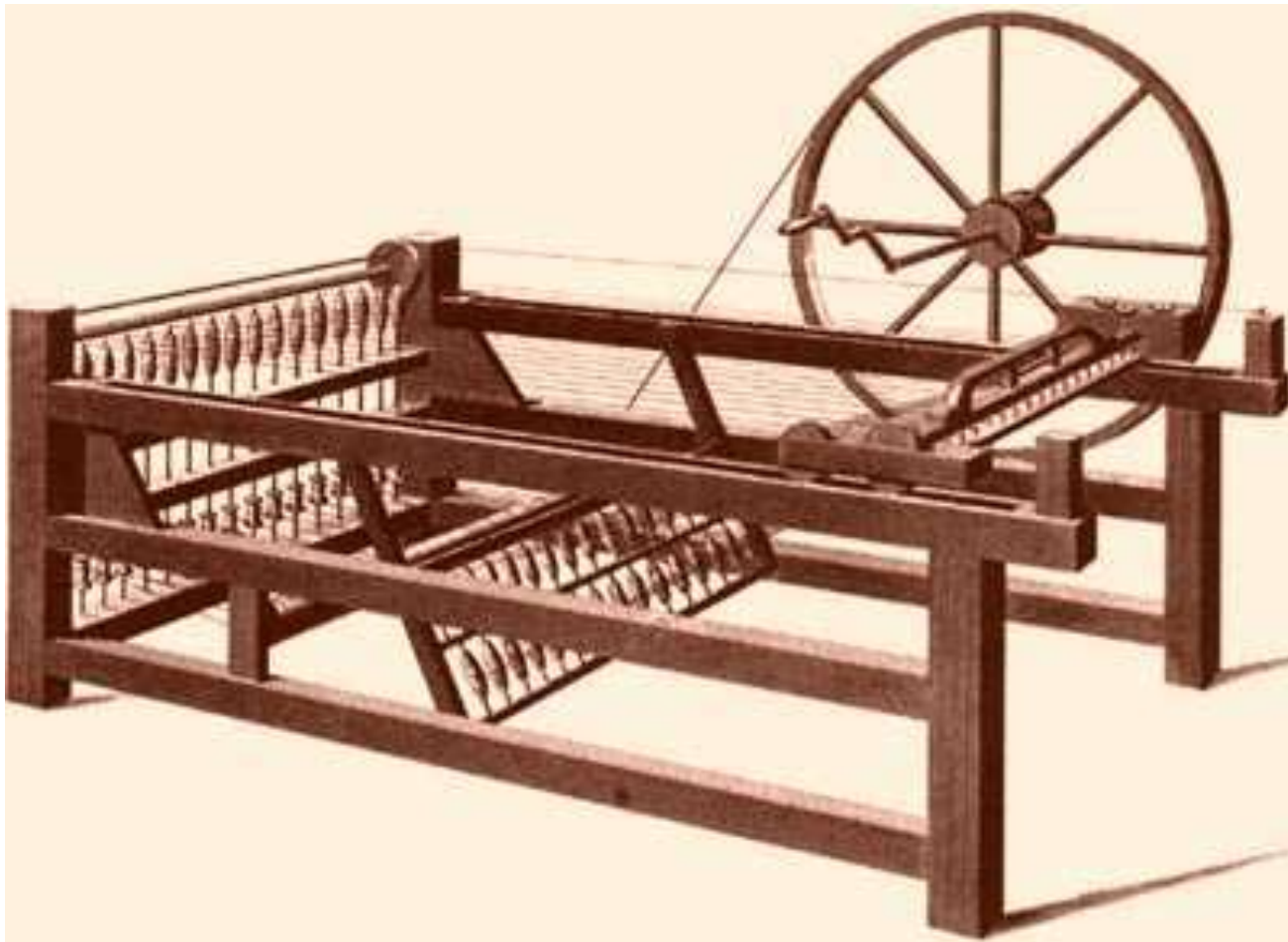
Henry Bessemer made  
cheaper, better steel.  
Steel now replaced iron.



# OTHER IMPORTANT INVENTIONS/INNOVATIONS

# SPINNING JENNY

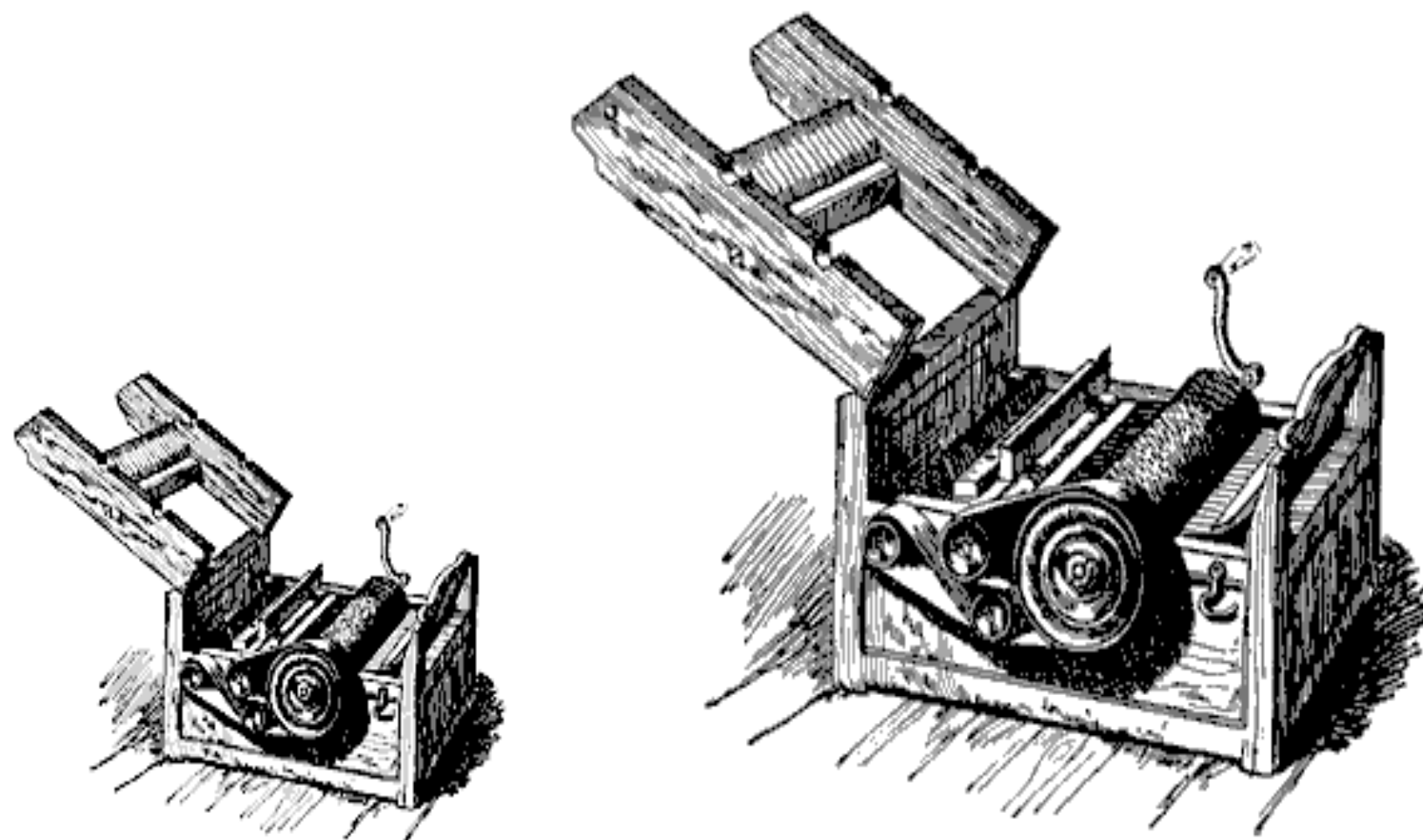
- **JAMES HARGREAVES** INVENTED IT
- REVOLUTIONIZED THE TEXTILE INDUSTRY



American Eli  
Whitney improved  
the system by  
designing  
interchangeable  
parts



## Eli Whitney's Cotton-Gin





!

# Industrialization has two (2) main components:

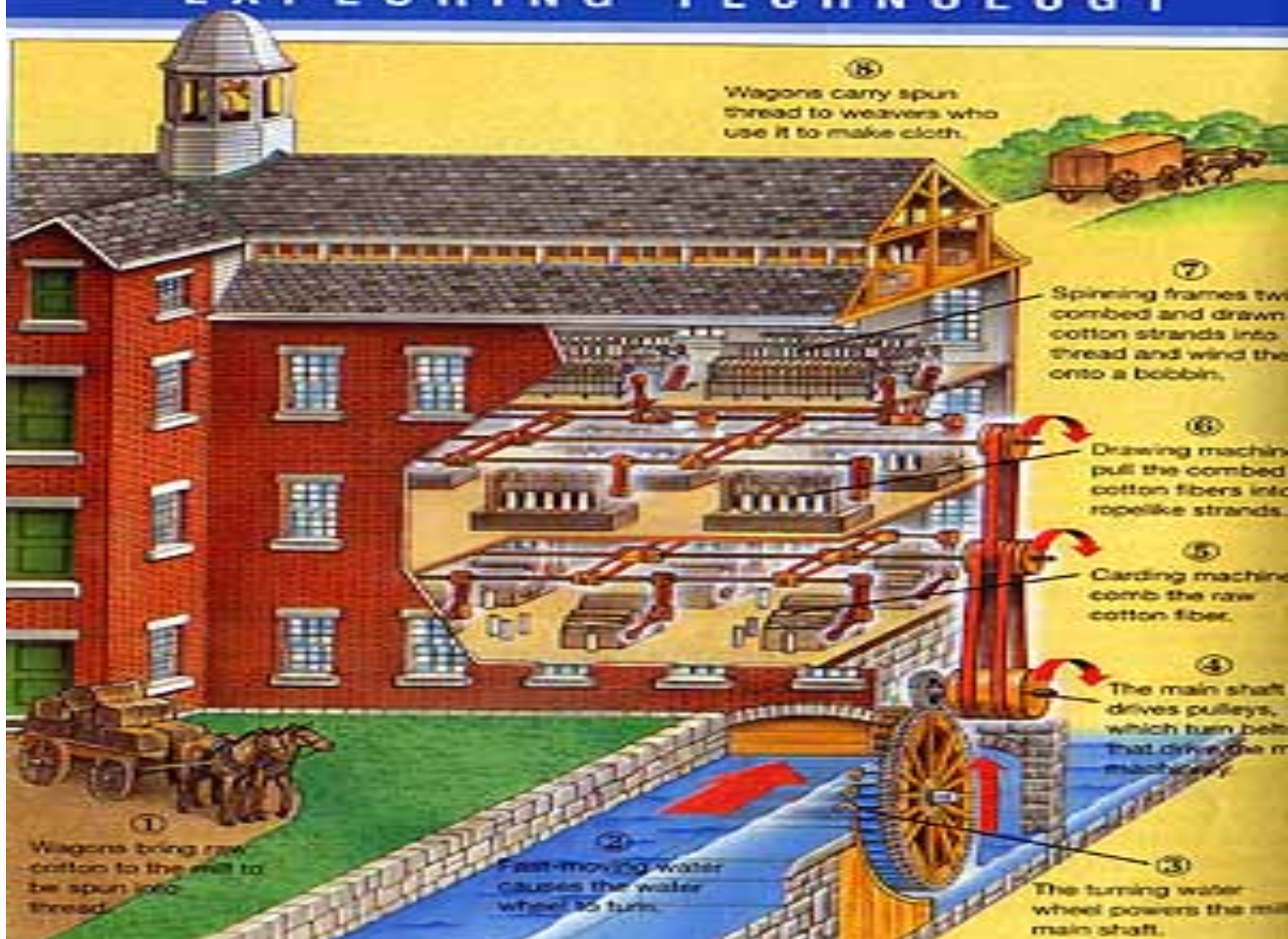
# 1. power-driven machinery

## 2. the factory system

# **\*\*FACTORY SYSTEM**

- The **factory system** was an invention that replaced hand labor in homes.
- Put workers and machines together under one roof with a steady supply of **raw materials from Americas, Africa, Asia**
- Disciplined work schedule
- Efficient means of distributing the goods

# EXPLORING TECHNOLOGY



# ***FACTORIES MADE PEOPLE COFH - The Nature of Work in the Factory System***

- C-CHILD LABOR KEPT COST of PRODUCTIVITY LOW  
and PROFITS HIGH***
- O-OWNERS of MINES and FACTORIES HAD  
CONTROL OVER LIVES of LABORERS***
- F-FAMILY BASED COTTAGE INDUSTRIES-REPLACED  
BY FACTORIES-IMPACTED FAMILIES***
- H-HARSH WORKING CONDITIONS WITH MEN  
COMPETING with WOMEN and CHILDREN FOR  
WAGES***

**Lacemaking 1850-1900**



